

PURCHASE DESCRIPTION

TEST SET, ANALOG SIGNATURE ANALYZER

TE2DA-B

1.0 GENERAL This procurement is for a test set which presents a voltage versus current display of electronic components under test, with the capability to display and digitize this information as test reference data. The test set shall have an internal CRT and must operate in both a stand alone and a computer controlled mode. The unit shall be remotely controllable via the IEEE-488() interface bus, operating as both a talker and listener. The test set shall include the accessories listed in 6.0.

2.0 CLASSIFICATION The equipment shall meet the requirements of MIL-T-28800(), Type III, Class 5, Style E, Color R for Navy shipboard, submarine, and shore applications with the following modifications and exceptions:

- a. The relative humidity requirement is limited to 50% non-condensating.
- b. The operating and non-operating altitude requirements are not invoked.
- c. The operating temperature requirement is limited to the range of 0° to +50°C.
- d. The electromagnetic interference requirements of MIL-T-28800() are not invoked.

3.0 OPERATIONAL REQUIREMENTS

3.1 Display: The test set shall be capable of displaying the real time signatures of a discrete semiconductor circuit junction, capacitance, inductance, integrated circuits (ICs), diodes, and resistance components either in or out of a circuit on its built-in CRT display.

3.2 Test Signal: The test signal shall be a sine wave at 200 Hz \pm 1 Hz. The test set shall have at least four selectable test voltages and impedances. Open circuit voltages and impedances will be as follows:

Voltage	Impedance
10 VOLTS PEAK \pm 0.5%	51 OHM \pm 10%
15 VOLTS PEAK \pm 0.5%	1.2K OHM \pm 10%
20 VOLTS PEAK \pm 0.5%	27K OHM \pm 10%
60 VOLTS PEAK \pm 0.5%	75K OHM \pm 10%

3.3 Test Capability

3.3.1 Test Set shall have the capability to function as a stand alone instrument when not under remote control.

3.3.2 Test Set shall have the capability to digitize the real time signature information and to send it via the IEEE interface bus to a remote controller.

3.3.3 Test Set shall have the capability to scan devices from 1 to 64 pins under remote control.

3.3.4 Tests shall be capable of being performed on components that are in or out of circuit.

3.4 Device Under Test (DUT) Interface

3.4.1 Discrete components: test and common front panel jacks and probes shall be provided.

3.4.2 Multiple Pin Devices: 20, 40 and 64 pin insulation displacement connectors shall be provided for testing multiple pin devices.

3.4.3 Loose Integrated Circuits (ICs): a 40 pin zero insertion force socket shall be provided for testing loose dual inline package devices.

3.5 Self Test and Checkout

3.5.1 The equipment shall include necessary circuitry and firmware to allow remote control testing of performance and relay functions.

3.6 Safety

3.6.1 The test and common lines shall contain overload protection.

4.0 GENERAL SPECIFICATIONS

4.1 Power: 115V $\pm 10\%$ or 230V $\pm 10\%$ (selectable), 47 Hz - 63 Hz, 50 watts maximum

4.2 Dimensions: The total volume shall not exceed 30899 cm³ (1886.5 in³).

4.3 Weight: The overall weight shall not exceed 7.72 kg (17 lb) nominal.

4.4 Calibration Interval: The calibration interval shall be 12 months minimum. The equipment shall be within all accuracy requirements specified herein, with a 72% or greater confidence factor following a calibration interval of 12 months.

4.5 Remote Operation: The unit will be capable of remote operation via IEEE-488() bus interface. It shall operate as both a talker or listener such that all functions except the power on/off switch are controllable.

5.0 ADDITIONAL EQUIPMENT TO BE INCLUDED WITH TEST SET

5.1 Foot Switch: The foot switch shall connect to an IBM compatible personal computer (PC) and will permit the operator to make PC entries utilizing a momentary foot switch. The foot switch shall include the following items:

- 1 Each Cable/foot switch assembly through connector to interface an IBM compatible PC
- 1 Each Operating software*
- 1 Each Installation/Operators manual

* Provided as GFE by NAVUNSEAWARCEN DET Norfolk for U.S. Navy and Marine Corps claimants. Provided by Huntron for all other claimants.

- 5.2 Universal Card Adapter (UCA): The UCA will interface with the test set via a 64 pin connector/cable assembly to facilitate card testing. The UCA shall be a single PCB assembly consisting of:

- 1 Each PCB
- 1 Each 40 pin open slot socket with .100" spacing
- 1 Each 40 pin open slot socket with .125" spacing
- 1 Each 40 pin open slot socket with .150" spacing
- 1 Each 40 pin open slot socket with .156" spacing
- 1 Each 64 pin IDC socket
- 5 Each rubber feet

- 5.2.1 Measurements: Less than 2.54 cm(1 in) high x 25.4 cm (10 in) wide x 20.32 cm (8 in deep)

- 5.3 Carrying Case: The case material shall be a plastic exterior with a foam cushion interior for test set protection.

6.0 ACCESSORIES TO BE PROVIDED WITH TEST SET

- 6.1 Accessories: One each of the following accessories shall be provided with the test set:

Front end adapter	Cable, 40 pin IDC/DIP
Dip knife edge clip, 16 pin	10K OHM resistor jumper
Dip knife edge clip, 40 pin	1K OHM resistor jumper
Dip knife edge clip, 20 pin	Common clip lead
Dip knife edge clip, 8 pin	GPIB cable (2 meters)
Dip knife edge clip, 14 pin	Cable, 20 pin IDC/IDC
Dip knife edge clip, 18 pin	Cable, 40 pin IDC/IDC
Dip knife edge clip, 22 pin	Cable, 64 pin IDC/IDC
Dip knife edge clip, 24 pin	Demo board
Dip knife edge clip, 28 pin	
Cable, 20 pin IDC/DIP	

Micro probes (1 pair) - 1 red micro probe; 1 black micro probe. Overall length shall be 48 inches nominal. Micro probes shall be terminated on one end with a .05 diameter (nominal) electrode, a probe tip and a probe body. Micro probe electrodes shall be extendible. Opposite end of micro probe cable shall terminate in an industry-standard banana plug.

Demo board-measurements - not to exceed 8" x 6" x 1/16". Demo board shall have installed a variety of electronic components, i.e., digital Integrated Circuits (ICs), analog integrated circuits, capacitors, diodes, light emitting diodes, resistors, and a switch for simulating component failures.